

WHAT IS CLAIMED IS:

1. A method for auto-configuring an internal network interface, wherein the internal network interface supports communication between a partition and other participating partitions associated with an internal network, the method comprising:

determining an internal VLAN identification associated with the internal network;

obtaining global parameters and ranges associated with the internal network;

determining that the partition is participating with the internal network;

determining partition parameters for the partition based upon the global parameters and ranges;

generating a message having the partition parameters and being associated with a network agent; and

invoking the network agent via transmission of the message, the network agent being responsive to the message to configure the internal network interface based upon the partition parameters.

2. The method of claim 1, further comprising transmitting the global parameters and internal VLAN identification to a partition manager to create a network switch, wherein the network switch is adapted to transmit transactions from the partition to at least one of the other participating partitions.

3. The method of claim 1, further comprising generating a request for current partition parameters associated with the internal network interface and presenting the current partition parameters to a user to reconfigure the internal network interface.

4. The method of claim 1, further comprising receiving locally stored global parameters in response to the message and comparing the locally stored global parameters with a master copy of the global parameters, to determine whether the

locally stored global parameters are consistent, wherein the partition maintains the locally stored global parameters.

5. The method of claim 1, further comprising queuing the message for retransmission in response to an error associated with invoking the network agent.
6. The method of claim 1, further comprising receiving a reply in response to the message, the reply indicating whether configuration of the internal network interface is successful.
7. The method of claim 1, wherein obtaining global parameters and ranges comprises obtaining parameters to govern transactions transmitted via the internal network.
8. The method of claim 1, wherein obtaining parameters comprises interacting with a user to define parameters from a group of parameters comprising a frame size, a duplex setting, and a retry value.
9. The method of claim 1, wherein determining the partition parameters comprises interacting with a user to define parameters from a group of parameters comprising an Internet protocol address, a port number, a VLAN interface name.
10. The method of claim 1, wherein determining the partition parameters comprises defining the partition parameters for the partition, the partition parameters being different from parameters determined for the other participating partitions and being within the ranges associated with the internal network.
11. The method of claim 1, wherein invoking the network agent comprises storing the message in memory associated with the partition and transmitting an interrupt to the partition to indicate receipt of the message.

12. A method for auto-configuring an internal network interface, wherein the internal network interface supports communication between a partition and other participating partitions associated with an internal network, the method comprising:

receiving a message having partition parameters and global parameters from an internal VLAN manager, wherein the message is associated with a network agent;
invoking the network agent in response to receiving the message; and
configuring the internal network interface based upon the partition parameters via the network agent.

13. The method of claim 12, further comprising generating a reply in response to the message wherein the reply indicates whether configuring the internal network interface is successful and transmitting the reply to the internal VLAN manager.

14. The method of claim 12, further comprising validating the partition parameters upon receipt of the message against limitations associated with the partition.

15. The method of claim 12, wherein configuring the internal network interface comprises creating a VLAN device driver and associating the VLAN device driver with a TCP/IP stack.

16. The method of claim 15, wherein configuring the internal network interface comprises modifying the partition parameters associated with the VLAN device driver.

17. A method for auto-configuring an internal network interface, wherein the internal network interface supports communication between a partition and other participating partitions associated with an internal network, the method comprising:

installing an internal VLAN manager on a logically partition server, the internal VLAN manager to generate a message for the partition having partition parameters based upon global parameters and ranges associated with the internal network;

installing a network agent in the partition, the network agent to be invoked upon receipt of the message by the partition and being adapted to configure the internal network interface based upon partition parameters in response to the message; and
utilizing a message transmitter on the logically partitioned computer system to transmit the message from the internal VLAN manager to the partition.

18. The method of claim 17, wherein utilizing the message transmitter comprises associating the message with the partition and transmitting the message to the message transmitter, the message transmitter being adapted to store the message in memory allocated for access by the partition and to transmit an interrupt to the partition to indicate storage of the message in the memory.

19. An apparatus for auto-creation of network interfaces for partitions participating with an internal network, the apparatus comprising:

a partition having a network agent to be invoked upon receipt of a message, the partition being one of the partitions participating with the internal network, wherein the network agent is adapted to configure an internal network interface of the internal network interfaces in response to the message;

an internal VLAN manager to determine global parameters and ranges associated with an internal network, determine partition parameters associated with the partition based upon the ranges, and generate the message based upon global parameters and the partition parameters, for the internal network interface; and

a message transmitter to transmit the message from the internal VLAN manager to the partition.

20. The apparatus of claim 19, the network agent is adapted to validate the partition parameters based upon constraints associated with an operating system installed in the partition.

21. The apparatus of claim 20, wherein the partition is adapted to execute within the operating system when invoked by the partition.
22. The apparatus of claim 19, wherein the partition is adapted to invoke the network agent in response to an interrupt from the message transmitter, after the message is stored in memory that is accessible by the partition.
23. The apparatus of claim 19, wherein the internal VLAN manager comprises a configuration manager to associate the global parameters with an internal VLAN identification, the internal VLAN identification being associated with the internal network, to obtain a list of the partitions participating with the internal network, and to create a network switch based upon the internal VLAN identification and the list.
24. The apparatus of claim 19, wherein the internal VLAN manager is adapted to interact with an administrator to determine the internal VLAN identification, global parameters and ranges, and the partition parameters via a console.
25. The apparatus of claim 19, wherein the internal VLAN manager comprises a configuration manager to transmit another message to retrieve current partition parameters associated with the partition, communicate with an administrator to modify the current partition parameters, and transmit the modified partition parameters to the partition to reconfigure the internal network interface.
26. The apparatus of claim 19, wherein the internal VLAN manager is adapted to compare global parameters stored locally by the partition against a master copy of the global parameters to determine whether the network interface is to be reconfigured by the internal VLAN manager.
27. A system for auto-creation of network interfaces, the system comprising:

partitions, each partition having a network agent to be invoked upon receipt of a message, wherein the network agent is adapted to configure an internal network interface of the internal network interfaces in response to the message;

an internal VLAN manager to configure an internal network to facilitate communication between at least two of the partitions, the internal VLAN manager to determine distinct partition parameters for each partition based upon global parameters and ranges associated with the internal network and to generate messages for each partition, to configure the internal network interfaces; and

a partition manager to transmit the messages from the internal VLAN manager to the at least two partitions, each of the messages being transmitted to a different partition of at least two partitions based upon a list of the at least two of the partitions indicating an association with the internal network.

28. The system of claim 27, wherein the internal VLAN manager comprises a configuration manager to associate the global parameters with an internal VLAN identification, the internal VLAN identification being associated with the internal network, to obtain a list of the at least two of the partitions, and to create a network switch based upon the internal VLAN identification and the list.

29. The system of claim 28, wherein the internal VLAN manager is adapted to interact with an administrator to determine the internal VLAN identification, global parameters and ranges, and the partition parameters via consoles.

30. The apparatus of claim 27, wherein the internal VLAN manager comprises a configuration manager to transmit another message to retrieve current partition parameters associated with the at least two of the partitions, communicate with an administrator to modify the current partition parameters, and transmit the modified partition parameters to the at least two of the partitions to reconfigure the internal network interfaces.

31. A computer readable medium containing a program which, when executed, performs an operation, comprising:

- determining an internal VLAN identification associated with an internal network;
- obtaining global parameters and ranges associated with the internal network;
- determining that a partition is participating with the internal network;
- determining partition parameters for the partition based upon the global

parameters and ranges;

- generating a message having the partition parameters and being associated with a network agent; and

- invoking the network agent via transmission of the message, the network agent being responsive to the message to configure an internal network interface based upon the partition parameters.

32. The computer readable medium of claim 31, wherein the operation further comprises transmitting the global parameters and internal VLAN identification to a partition manager to create an internal network switch, wherein the internal network switch is adapted to transmit transactions from the partition to at least one other partition participating with the internal network.

33. The computer readable medium of claim 31, wherein the operation further comprises generating a request for current partition parameters associated with the internal network interface and presenting the current partition parameters to an administrator for reconfiguring the internal network interface.

34. A computer readable medium containing a program which, when executed, performs an operation, comprising:

- receiving a message having partition parameters, from an internal VLAN manager, wherein the message is associated with a network agent;

- invoking the network agent in response to receiving the message; and

configuring the internal network interface based upon partition parameters via the network agent.

35. The computer readable medium of claim 34, wherein the operation further comprises generating a reply in response to the message, wherein the reply indicates whether configuring the internal network interface is successful, and transmitting the reply to the internal VLAN manager.

36. The computer readable medium of claim 34, wherein the operation further comprises validating the partition parameters upon receipt of the message against limitations associated with a partition, wherein the network agent is executed by the partition.

37. The computer readable medium of claim 34, wherein configuring the internal network interface comprises creating a VLAN device driver and associating the VLAN device driver with a TCP/IP stack.

38. A computer readable medium containing configuration information accessible by an internal virtual local area network (VLAN) manager to set up an internal VLAN, the configuration information comprising:

- an internal VLAN identification to identify the internal VLAN;
- global parameters and ranges for configuring the internal VLAN switch for the internal VLAN;
- at least one partition associated with the internal VLAN; and
- partition parameters to configure an internal network interface associated with the at least one partition, the internal network interface to be adapted by an internal network agent based upon the partition parameters for communication via the internal VLAN switch.

39. The computer readable medium of claim 34, wherein the global parameters and ranges comprise parameters from a group of parameters comprising a frame size, a duplex setting, and a retry value.

40. The computer readable medium of claim 34, wherein the at least one partition comprises a partition managed by a partition manager in a logically partitioned system.

41. The computer readable medium of claim 34, wherein the partition parameters comprise parameters from a group of parameters comprising an Internet protocol address, a port number, a VLAN interface name.